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Pr8843 - Specification for Drawing, Document and Equipment Tag Numbering

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Documents Details

This document is only valid on the day it was printed.

Document Sponsor	Infrastructure Standards and Product Approval Committee
Document Author (Owner)	Head of Asset Management
Subject Matter Expert	Infrastructure Standards Engineer and Infrastructure Standards Team
References	Refer to Appendix B of this document

Version Review

Revision	Date issued	Reviewed by	Approved by	Date approved	Revision type/ summary
1	18/03/2016	S.Langdon			
2	22/04/2016	S.Langdon	A.Schoenmaker	26/04/2016	Issued for use
3	26/02/2018	G.Burnett	G.Burnett	26/02/2018	Periodic review, no changes
4	14/01/2020	B Van Wegen	B Van Wegen	09/01/2020	Periodic review, no changes
5	11/03/2021	Y Skinner S Walker	B Van Wegen	03/05/2021	Add additional codes into table 3 to incorporate drawing models
6	December 2021	T Stewart	G West	23/12/2021	• Update numbering to include all UW sites including water and sewer network. • Removed Project requirements. • Update to numbering systems. • Relocated key information to Appendices. • Change of ownership to AKaP.
7	N/A	L. Bryson, Policy & Docs Advisor	N/A	N/A	24/05/2023 – Minor admin amend to replace manhole terminology with maintenance hole. No change to review dates.
8	N/A	J. Munro Document Control Officer	N/A	N/A	14/09/2023 Minor admin amendment to align with current template.
9	25/09/2023	K. Goraya	K. Goraya, Head of Asset Management	26/09/2023	Periodic review, no changes
10	N/A	J. Munro Document Control Officer	N/A	N/A	27/09/2023 Minor admin amendment to replace obsolete reference Pr8874 with Pr11211

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1. Purpose

The purpose of this document is to specify a numbering and naming convention system to be applied across all of Unitywater's Sewage Treatment Plants (STPs) Sewage Pump Stations, Water Pump Stations, Water Reservoirs and other significant infrastructure.

This Specification shall apply to all of Unitywater's Sewage Treatment Plants (STPs) except where an existing numbering system is to be retained as directed by Unitywater.

This Specification shall progressively apply to all of Unitywater's Sewage Pump Stations, Water Pump Stations, Water Reservoirs and other significant infrastructure except where an existing numbering system is to be retained as directed by Unitywater.

The numbering system is used to develop OPERATIONAL/HANDOVER DOCUMENTATION ONLY including:

- Drawing and document identification numbers;
- Tag numbers for sewage treatment plant areas, process units, structures, mechanical equipment, electrical equipment, control equipment, valves and instruments;
- Identification numbers for pipes and cables; and
- PLC and SCADA tag numbers.

This document does not consider numbering systems for general project management requirements.

2. Scope

This Specification shall apply to all of Unitywater's Sewage Treatment Plants (STPs) except where an existing numbering system is to be retained as directed by Unitywater.

This Specification shall progressively apply to all of Unitywater's Sewage Pump Stations, Water Pump Stations, Water Reservoirs and other significant infrastructure except where an existing numbering system is to be retained as directed by Unitywater.

This Specification shall be used to develop the following at each site/facility:

- Drawing and document numbers – drawings, manuals, procedures
- Equipment tag numbers – process, mechanical, electrical, PLC/SCADA, structures, pipes,

This Specification can be used in parallel with online project collaboration software. Project specific documentation may be named and numbered in alignment with this specification, however operational documents must follow the requirements of this specification.

3. Drawing and Document Numbering Methodology

3.1 Sewage Treatment Plants and Other Significant Processing Plants

The following describes the requirements for Sewage Treatment Plants and Other Significant Processing Plants. This convention will be used for Other Significant Processing Plants where deemed appropriate.

Drawing and document numbering shall follow the format following.

LLLSSS-D-TT-NNQQ-XX

Where:

- **LLL** - Suburb Code identifying the site/facility to which the document relates (a list of Suburb Codes is shown in Appendix C);
- **SSS** – Site code identifying the type of site the document relates to (a list of Site Types is shown in Appendix C);
- **D** – Code identifying the discipline to which the document relates (Appendix D);
- **TT** – Code identifying the drawing or document type (Appendix E);
- **NNQQ** – Numeric series (Process Unit and System number) for numbering of deliverable/operational drawings or documents (Appendix F);
- **XX** – For drawings - Sequential sheet number for numbering of multiple drawings or documents for the same equipment. For Manuals – sequential volume number for multiple volumes/sections within the manual.

The filename used for all drawings must be the drawing number, i.e. LLLSSS-D-TT-NNQQ-XX.

The filename used for documents must be the filename AND the document title after the document number, e.g. LLLSSS-D-TT-NNQQ – Document title (exclude site details).

3.2 Network Facilities

The following describes the requirements for network sites including Sewage Pump Stations, Water Pump Stations, Water Reservoirs and other significant infrastructure e.g. flowmeter, PRV sites etc. This convention will be used for Other Significant Infrastructure where deemed appropriate.

Drawing and document numbering shall follow the format below.

SSS-LLLBBB-D-TT-NNQQ-XX

Where:

- **LLL, SSS** – Code identifying the type the site is i.e. sewage pump station, water pump station, reservoir or other site (PRV) Site types are shown in Appendix C);
- **BBB** – Numerical code for the site (Assigned by Unitywater);
- **D** – Code identifying the discipline to which the document relates;
- **TT** – Code identifying the drawing or document type;
- **NNQQ** – Numeric series (Process Unit and System number) for numbering of deliverable/operational drawings or documents (Appendix F);

  XX – For drawings - Sequential sheet number for numbering of multiple drawings or documents for the same equipment. For Manuals – sequential volume number for multiple volumes/sections within the manual.

The filename used for all drawings must be the drawing number, i.e. SSS-LLLBBB-D-TT-NNQQ-XX.

The filename used for documents must be the filename AND the document title after the document number e.g. LLLBBB-D-TT-NNQQ – Document Title (Exclude site/facility details).

3.3 Site Codes – LLLSSS and SSS-LLLBBB

Site codes are derived from a combination of the suburb code followed by the site type code. Site codes for STP are shown in full in Appendix C. Site guides for Network sites are shown as a guide only in Appendix C. Generally, the location code for sites will be supplied as part of the project requirements LLLSSS and SSS-LLLBBB may be used interchangeably in terms of location identification, however from here on only LLLSSS will be shown in terminology.

3.4 Discipline Codes – D

The disciplines used for the discipline code are detailed in Appendix D.

These discipline codes may be used for deliverable/operational documents as well as used during project work.

3.5 Drawing and Document Codes – TT

The drawing and document types used for the drawing or document code are detailed in Appendix E.

3.6 Drawing or Document Number – NNQQ

Drawing and Document numbers are generated using the Process unit and system numbering system identified in Appendix F. Drawing and Document numbers are to align with tag numbers for process units and systems. This is to include structures, mechanical equipment, electrical equipment, control equipment, valves and instruments and any other equipment wherever possible.

Drawings to be provided include site plans, layout and sectional plans for all items of equipment, road and civil works, structures, pipework and buildings. Site plans to be provided include separate plans for the entire site, all plant areas and sub areas, all process pipework and all plant wide systems and services as defined in Section 4.

The Numeric series NNQQ is explained in further detail Section 4.

3.7 Sheet Number - XX

Sheet numbers are to be used from 00 to 99. While sheet 00 may be used it should generally only be used as a title page and only if necessary. Sheet numbers should generally start at 01.

For document there is usually no need for sheet numbering and hence this may be omitted. It may be deemed necessary where there are multiple documents that occupy a particular number and hence sheet numbers may be used.

Where there is only one drawings sheet number 01 is to be used.

For additional drawings, numbering is to be sequential with the exception of electrical drawings.

Some electrical drawings have predetermined sheet numbers. Further details of this are shown in Section 7.3.

4. Process Unit and System Number – (NNQQ)

This section describes the numbering system used for process units and systems, which are then reflected in both drawing numbers and equipment tag numbers.

This ensures drawing numbers and equipment tag numbers align to easily identify the drawing or document number that relates to any specific piece of equipment in the field.

Drawing and Document numbers are generated using the process unit and system numeric code described in Appendix F. Drawing and Document numbers are to align with tag numbers for process units and their systems.

This system was developed specifically for STPs and is to be used at all STP unless an agreed numbering system is already in use. Upgrades/renewals and new developments in the networks will progressively use this system.

4.1 Determining Plant and Equipment Tag Numbers

- The first number of the code represents the Process Major Area.
- The second number of the code represents the Process Sub Area.
- The third number of the code represents the system.
- The fourth number of the code represents the system equipment.
- Refer to the process area/system standard in Appendix F.
- Equipment tag numbers will relate to the process/fluid they are carrying/relate to. An example of this would be service water at a STP where the tag numbers of equipment carrying the service water are 01XX for the process area, even though the equipment may be located within the inlet works or biological treatment area of the plant.
- Major structures or overall equipment shall be allocated NNQ0 e.g. Inlet works screening structure will be 1100, Bioreactor 1 will be 3100.
- Single ancillary equipment i.e. a motor, an instrument, etc. that is directly connected and dedicated to the process unit or major equipment's primary function will be allocated from NNQ1.
- Multiple ancillary equipment that is directly connected and dedicated to the process unit or major equipment's primary function or ancillary equipment that is related to the process unit or major equipment's additional functions will be allocated sequential numbers continuing from the major equipment's QQ number i.e. NNQ1, NNQ 2, NNQ 3, etc. for "Process Unit" or "Major Equipment" 1 (NN10).
- It is permissible and expected that there will be multiple equipment with the same number but the distinguishing factor will be the Equipment or Instrument tag alpha identifier. Details of these are provide in Appendix G and Appendix H.
- Numbers to allow for future expansion of the sewage treatment plant capacity should be included/allocated wherever possible. Appendix F tries to cater for this.
- Minor equipment that does not directly belong to any current or future (where identified) process unit or major equipment function can be allocated QQ numbers that have not been allocated elsewhere i.e. Q1 to Q9 where Q has not been allocated previously. However this must be discussed and agreed with the Unitywater Infrastructure Standards Team.
- Equipment that is on the PROCESS PRIMARY LINE are to be number sequentially (incremented by NNQ1).

Note – The relationship between Tag numbers and Drawings makes it very easy to search all types of drawings for specific equipment. This document has been established specifically for STPs. An expanded table is now established for Sewage Pump Stations, Water Pump Stations and Reservoirs.

5. Equipment Numbering System

This section describes the numbering system used for equipment.

Equipment tag numbers shall follow the format below:

EEE-NNQQ

Where:

- **EEE** – Equipment alpha code. The Equipment Alpha Code shall follow requirements of Appendix G and be detailed on the P&IDs;
- **NNQQ** – Numeric series (Process Unit and System number) for numbering of equipment, drawings or documents is shown in Appendix F;

The Alpha Code shall precede the Equipment Tag Number. Equipment alpha codes are shown in Appendix G.

If additional equipment alpha codes are required they must be submitted to Unitywater Infrastructure Standards Team for approval and incorporation into this standard before use.

6. Instrumentation Numbering System

This section describes the numbering system used for instrumentation equipment.

Equipment tag numbers shall follow the format below:

AAAA-NNQQ

Where:

- **AAAA** – the instrument alpha code Equipment alpha code. The instrument Alpha Code shall follow requirements of international ISA 5.1 standard and be detailed on the P&IDs.;
- **NNQQ** – Numeric series (Process Unit and System number) for numbering of equipment, drawings or documents (insert cross reference).

The instrument Alpha Code shall precede the instrument Tag Number. Instrument alpha codes are shown in Appendix H.

The Instrument Number shall be the same as the Equipment number to which it is directly associated.

If required, the Number may use an additional 2 digits separated by a dash (easier to read than a decimal point) i.e. NNQQ-QQ to separate two instruments with the same Alpha Codes and number e.g. PSL5211-01 & PSL5211-02. Where this requirement is used, careful consideration must be given to drawing sheet numbers and document naming convention for these pieces of equipment.

This section specifies how the characters that precede the numerical descriptors of the tag number are developed for instruments. This system uses the International ISA 5.1 Standard to develop the Instrument Alpha Code.

7. Electrical Equipment Tag Numbering System

The electrical numbering system has been developed to allow various electrical equipment types. Some electrical equipment (i.e. VSDs, Soft starters etc.) are dedicated to individual items of equipment whereas other equipment (i.e. Transformers, MCC etc.) are common to many items of equipment. Electrical equipment may be divided into 2 categories:

- Numbering for Dedicated or Grouped Equipment;
- Numbering for Common Equipment.

Further breakdown of how electrical equipment may be numbered (NNQQ) is shown in Appendix F.

7.1 Dedicated or Grouped Equipment

This section is used to generate a Tag number for a single item of equipment or a group of equipment items (i.e. a package plant) with one specific task.

Single Item of Equipment example:

Air compressor - comprises the compressor, an on-board electrical local control panel and possibly a Variable Speed Drive. The mechanical equipment will be assigned the tag CPR0601. The electrical panel forming the compressor control would be labelled LCP0601, the motor labelled MTR0601and the VSD labelled VSD0601.

Group of Equipment Items (Package plant):

Polymer Storage and Dosing Plant – this system typically comprises a number of drives, valves, tanks, instrumentation etc. with the sole aim being to produce polymer for a process to a specific quantity and quality. This type of plant will usually be controlled by a dedicated electrical panel. The polymer plant equipment may have tags ranging from 5300 to 5399 with preceding Alpha codes as described previously. The Electrical control panel for the Polymer Storage and Dosing System would be labelled LCP5301 being the first tag number used in the polymer plant.

Field Junction Boxes and Marshalling Panels:

Junction Boxes / Marshalling panels – These may be used for a single device or multiple devices depending on the requirements. They shall take on the following number format:

PPP-AAAA-NNQQ

PPP (as per Equipment Alpha Code Section 5):

JBE – Junction Box - Electrical

JBI – Junction Box Instrumentation

MPL – Marshalling Panel

AAAA:

Represents the Alpha Tag of the related instrument where a single device is connected (Not used where Multiple devices are connected)

NNQQ:

Represents the Actual Number Tag of the instrument where a single instrument is connected or a suitable number relating to the Process Unit/System where multiple devices are connected.

7.2 Common Electrical Equipment

Equipment such as main switchboards, motor control centres, PLCs, transformer shall be named and numbered as common electrical equipment. This type of equipment is not related to a specific item or group of equipment. This type of electrical equipment invariably caters for one or more Process Unit or System.

The Tag Number of this type of Electrical Equipment shall take the following form:

EEE-NNQQ

The first piece of equipment shall be numbered EEENNQ1 and subsequent equipment will increment by 1. However, where a piece of equipment requires greater than 99 drawings (sheets) then the subsequent equipment can be incremented as required to fit the design. An example of this may be that there are 2 MCC's in a particular area and the first MCC requires 120 drawings.

MCC 1 can be numbered MCC9xx1 with associated drawings for the MCC occupying drawing numbers LLLSSS-E-DR-9xx1-00 to LLLSSS-E-DR-9xx1-99 and LLLSSS-E-DR-9xx2-00 to LLLSSS-E-DR-9xx2-99 (use as many drawings as required).

7.3 Electrical Equipment Drawings – Sheet Numbering (STP only)

For consistency of drawing and sheet numbers for electrical equipment the following guide is provided for a consistent approach to drawing and sheet numbers of electrical equipment. This is particularly important for switchboards/MCC and other equipment that may have the same "NNQQ" designation.

The following sheet numbering is to be used as a preferred allocation for main switchboards and motor control centres. Where an allocation is filled and more drawings are required, then use of numbers from the next range may be considered.

Sheet Number Range	Content
01 to 05	Single line diagrams
06 to 09	Protection schemes and interlocking
10	Earthing
11 to 24	Three line diagrams for the switchboard showing all devices including ACB, MCCB, Isolators, power meters, surge diverters. The AC and DC wiring for each device must be shown on the same drawing sheet.
25 to 40	AC and DC Distribution within the switchboard i.e. control DB, 24V DC, process DB where these are within the switchboard
41 to 79	PLC/IO drawings
80 to 99	Switchboard General Arrangement Drawings

For other discrete equipment the following sheet numbers are to be used:

Sheet Number	Content
01 to 05	Main equipment Schematic diagram and termination diagrams (if used) e.g. motor starter schematic and termination diagram
06 to 09	General arrangements, Local Control Stations etc.
10	PEN (Penstock Instrument Loop Diagram)
11	VFS (Flow Switching Valve Instrument Loop Diagram)
12	VFC (Flow Control Valve Instrument Loop Diagram)
13	FIT/FT (Flow transmitter Instrument Loop Diagram)
14	LIT/LT (Level Transmitter Instrument Loop Diagram)
15	PIT/PT (Pressure Instrument Loop Diagram)
16	PDIT/PDT (Pressure Differential Instrument Loop Diagram)
17	AIT (Analyser Instrument Loop Diagram)
18	TIT/TT (Temperature Instrument Loop Diagram)
19	WIT (Weight Instrument Loop Diagram)
20	LSHH (Level Switch High High Instrument Loop Diagram)
21	LSH (Level Switch High Instrument Loop Diagram)
22	LSL (Level Switch Low Instrument Loop Diagram)
23	LSLL (Level Switch Low Instrument Loop Diagram)
24	PSHH (Pressure Switch High High Instrument Loop Diagram)
25	PSH (Pressure Switch High Instrument Loop Diagram)
26	PSL (Pressure Switch Low Instrument Loop Diagram)
27	PSLL (Pressure Switch Low Low Instrument Loop Diagram)
28	FSHH (Flow Switch High High Instrument Loop Diagram)
29	FSH (Flow Switch High Instrument Loop Diagram)
30	FSL (Flow Switch Low Instrument Loop Diagram)
31	FSLL (Flow Switch Low Low Instrument Loop Diagram)
32	TSHH (Temperature Switch High High Instrument Loop Diagram)
33	TSH (Temperature Switch High Instrument Loop Diagram)
34	TSL (Temperature Switch Low Instrument Loop Diagram)
35	TSLL (Temperature Switch Low Low Instrument Loop Diagram)

8. Cable Numbering System

All electrical and control cables shall use the following general structure for cable numbering.

TAGNAME - CABLE TYPE- CABLE NUMBER

The cable numbers shall use the following format:

EEENNQQ-C-ZZ

Where:

- EEE – Equipment Alpha code as defined in Section 5;
- NNQQ – Numeric Tag #as defined in Section 4;
- C – Cable Type as defined below in Appendix I;
- ZZ – Sequential Cable number for equipment.

9. Pipe Identification System

For pipeline identification the following format shall be applied:

NN-FFF-SSSS-MMMM-XXX

Where:

- NN – Process Area Numbers as defined in Section 4;
- FFF – Fluid Abbreviation as defined in Section 10;
- SSSS- Pipe size – typically Nominal Bore in millimeters;
- MMMM – Material Abbreviation, as defined in Section 11;
- XXX – Sequential pipe number;
- A pipeline number should typically be assigned to the whole pipeline from beginning to end unless:
    - The pipe material or size changes;
    - The product pressure or temperature changes; or
    - The pipe meets a junction with another pipe.

10. Fluid Abbreviations

The fluid abbreviations shown in Appendix J shall be used. If additional fluid codes are required, they must be submitted to Unitywater for approval and incorporation into this standard before use.

11. Pipe Abbreviations

The pipe abbreviations shown in Appendix K shall be used. If additional pipe codes are required, they must be submitted to Unitywater for approval and incorporation into this standard before use.

12. Examples for the Development of Tag Numbers and Drawing Numbers

Unitywater recommends the following process for the development of equipment tag, drawing and document numbers:

Step 1 Develop concept P&IDs. Drawing numbers are generated using the plant area / plant sub area code i.e. LLLSSS-P-DR-NNQQ-XX;

Step 2 Use Section 4 to assign the Plant Equipment Tag Number for individual items on the P&IDs;

Step 3 Use Sections 5, 6 and 7 to determine the alpha prefix to complete the Tag Numbers;

Step 4 Develop Site Plans, Layout and Sectional Plans and General Arrangement drawings. These drawing numbers are generated using the Plant and Equipment numbering system identified in Section 4.

Step 5 Develop remaining drawings using the Plant and Equipment numbering system identified in Section 4. See examples in this section.

Note **-** Pipes, conduits, hoses, cables and trays are not considered equipment and are not allocated a Tag number. These items shall be recorded on individual schedules. Walkways ladders, stairs and the like form part of the parent equipment (e.g. tanks) and similarly are not allocated Tag numbers.

12.1 Example 1 – Determining Secondary Clarifier 1 Tag Numbers and Drawing Numbers

- Secondary Clarifier 1 is defined as a process unit and is allocated the tag number CLR-3610.
- Secondary Clarifier 1 rotating bridge is defined as a single mechanical bridge dedicated to the process unit's primary function and is allocated the tag number BRI-3610.
- Secondary Clarifier 1 rotating bridge motor is defined as a single motor dedicated to the major equipment's primary function and is allocated the tag number MTR-3611.
- Secondary Clarifier 1 rotating bridge motor is driven by a VSD and is allocated the same tag number as the motor with a different equipment code i.e. VSD-3611.
- Secondary Clarifier 1 has a launder spray pump which is defined as ancillary equipment for the rotating bridge's secondary function and is allocated the tag number PMP-3612.
- The tag number for Secondary Clarifier 1 Launder Spray Pump motor is MTR-3612.
- If the Launder Spray Pump motor had a Variable Speed Drive its tag number be VSD-3612.
- If the Variable Speed Drive was contained in a Local Control Panel (LCP) on the clarifier bridge the control panel would have the tag number LCP-3612.
- Secondary Clarifier 1 and all related equipment would be found on P&ID LLLSTP-P-DR-36QQ-XX (where QQ represents a logical number in the series 1-99).
- The Civil drawings for Secondary Clarifier 1 would be found on LLLSTP-C-DR-36QQ-XXwhere QQ would be associated QQ number for Secondary Clarifier 1 i.e. 10).
- The Electrical drawings would be found on LLLSTP-E-DR-36NN-XX.

12.2 Example 2 – Service Water pump # 1, 2 and 3 for STP

- Develop P&IDs and number in a logical sequence starting at the inlet to the plant.
- Assign Tag #s - PMP-0101, PMP-0102, PMP-0103
- Assign Drawing #s - For a general arrangement CRYSTP-C-DR-01QQ-01, for a detailed mechanical drawing CRYSTP-M-DR-01QQ-01-A

  Note – These pumps could be shown on the same drawing CRYSTP-M-DR-0101-01 or if they are large complex pumps they could be shown on separate drawings CRYSTP-M-DR-0101-01, CRYSTP-C-DR-0102-01, CRYSTP-C-DR-0103-01. The QQ designates the flexibility available to the draftsman.

12.3 Example 3 – Inlet works bypass valve # 1 and 2

- Assign Tag #s - PEN-1301, PEN-1302
- Assign Drawing #s - For a GA CRYSTP-C-DR-13QQ-01[R]. For detailed mechanical fabrication, CRYSTP-M-DR-13QQ-01

12.4 Example 4 – Effluent Flow Meter to Outfall

- Assign Tag # - FIT-6501
- Assign Drawing #s - For GA LLLSTP-C-DR-65QQ-01, flow meter loop diagram LLLSTP-E-DR-6501-13

12.5 Example 5 – Control Building

- Assign Tag #s - BLD-009x
- Assign Drawing #s – For Civil CRYSTP-C-DR-009Q-01

12.6 Example 6 – Balance Tank 1 Pumps Variable Speed Drives

- Assign Tag #s – VSD-1411, VSD-1412, VSD-1413.
- Assign Drawing #s – For Electrical Line Diagram LLLSTP-E-DR-14QQ-XX

12.7 Example 7 – Main Plant MSB

- Assign Tag #s - MSB-9001
- Assign Drawing #s – For single line diagrams LLLSTP-E-DR-9311-01 to -05, for three-line diagrams LLLSTP-E-DR-9001-11 to -24, For General Arrangement Drawing LLLSTP-E-DR-9001-80 to -99.

12.8 Example 8 – Bioreactor Common MCC

- Assign Tag #s - MCC-9311
- Assign Drawing #s – For single line diagrams LLLSTP-E-DR-9311-01 to -05, for three-line diagrams LLLSTP-E-DR-9311-11 to -24, For PLC or Remote IO LLLSTP-E-DR-9311-41 to -79, For General Arrangement Drawing LLLSTP-E-DR-9311-80 to -99.

Appendix A – Definitions/Acronyms

The following definitions and acronyms are used throughout this specification.

Term	Meaning
Facility	A collection of locations and assets collocated spatially. A treatment plant for example is a facility comprising of a multitude of locations and assets such as tanks, pumps, valves, etc.
IFC	Issued for Construction
MCC	Motor Control Centre
Operational document	A document required for safe, reliable operation of equipment at a site or facility. This may include drawings, manuals, procedures, reports etc.
Other Significant Processing Plant	A site/facility that is not a STP, however has similar large scale characteristics of a STP.
P&ID Tag Number	A unique identifier assigned to assets in Piping and Instrumentation Diagrams. Assets at treatment plants are commonly known by their P&ID Tag number rather than asset number.
P&ID	Piping and Instrumentation Diagram
Process Unit	NNQQ – See Section 4 and Appendix F
Project documents	Drawings/Documents/information created as part of a project. Some project documents are “operational documents”
Site	A geographic location that contains one or more facilities. Locations and assets can be directly linked to the site.
STP	Sewage Treatment Plant
System	NNQQ – See Section 4 and Appendix F

Appendix B – References

General

All design, equipment and workmanship shall conform to the most recent requirements of relevant local, State and Commonwealth statutory requirements and applicable, current Australian Standards.

Where no Australian Standard exists, work shall conform to the most applicable, current IEC Standard.

Where conflict exists between different Codes, Standards or Regulations, the higher requirement shall apply.

The following Legislation, related Regulation and Codes apply to this specification:

- SEQ Code – D&C code Asset Information

Relevant Unitywater documents that relate to this specification

Document No.	Title
Pr8701	Specification for Asset Information
Pr9080	Specification for CAD BIM Drafting and Modelling Standards
Pr11211	Specification for Commissioning and Handover of Active and Passive Assets
Pr9380	Electrical Installations at Network Sites
Pr9835	Electrical Installations at Treatment Plants
Pr10360	Project Information Requirements
Pr10382	Digital Engineering Execution Plan
In development	Online Project Collaboration Requirements

International and Australian Standards

Standard	Title
Quality Systems	
AS ISO 1000	The international system of units (SI) and its application
ISA-5.1-2009	Instrumentation Symbols and Identification

Appendix C – LLLSSS - Location and Site Type Codes

STP Abbreviation	Meaning
BGYSTP	Burpengary East Sewage Treatment Plant
BISSTP	Bribie Island Sewage Treatment Plant
BRNSTP	Brendale Sewage Treatment Plant
CBSRTP	Caboolture South Recycled Water Treatment Plant
CBSSTP	Caboolture South Sewage Treatment Plant
CLMSTP	Coolum Sewage Treatment Plant
CRYSTP	Cooroy Sewage Treatment Plant
DAYSTP	Dayboro Sewage Treatment Plant
KAWSTP	Kawana Sewage Treatment Plant
KENSTP	Kenilworth Sewage Treatment Plant
LBHSTP	Landsborough Sewage Treatment Plant
MALSTP	Maleny Sewage Treatment Plant
MDNSTP	Murrumba Downs Sewage Treatment Plant
MLURTP	Moodlu Quarry Recycled Treatment Plant
MRDSTP	Maroochydore Sewage Treatment Plant
NAMSTP	Nambour Sewage Treatment Plant
NHDSTP	Noosa Sewage Treatment Plant
REDSTP	Redcliffe Sewage Treatment Plant
UWDSTD	Unitywater Standard
WFDSTP	Woodford Sewage Treatment Plant

Location Type Abbreviation	Meaning
BLD	Building facility, such as a depot, office or store
EPS	Effluent Pump Station
MUL	Multiple facility water site, e.g. RES & WPS parent assets on the same site. If a location has both RES & WPS, it is a Location Type of MUL.
PRV	Pressure Reduction Valve. If a location that is primarily a PRV includes both a PRV and a WFM, it is a Location Type of PRV.
RAV	Recycled water Actuator Valve
RCP	Recycled Water Cathodic Protection
RES	Water Reservoir
RFM	Recycled Water Flow Meter
RFS	Recycled Water Filling Station
RPS	Recycled Water Pump Station

Location Type Abbreviation	Meaning
RTP	Recycled Water Treatment Plant
RWR	Recycled Water Reservoir
SAV	Sewage Actuator Valve
SCA	SCADA (primarily for repeaters, not individual RTUs)
SCP	Sewage Cathodic Protection
SDO	Sewage Chemical Dosing, usually for odour control. *Only used if the dosing is at a stand-alone location*.
SFM	Sewage Flow Meter. Only used if the flow meter is at a stand-alone location.
SOC	Sewage Odour Control
SPS	Sewage Pump Station
STP	Sewage Treatment Plant
WAV	Water Actuator Valve
WCP	Water Cathodic Protection
WDO	Water Chemical Dosing, usually for re-chlorination or re-chloramination. *Only used if the dosing is at a stand-alone location.*
WFM	Water Flow Meter. *Only used if the flow meter is at a stand-alone location*.
WFS	Water Filling Station
WPM	Water Pressure Monitoring
WPS	Water Pump Station
WTP	Water Treatment Plant

Suburb Code Abbreviation	Suburb Description	Region
ACK	Albany Creek	South
ALX	Alexandra Headlands	North
ARH	Arana Hills	South
BBM	Beerburrum	North
BEW	Beerwah	North
BGY	Burpengary	South
BIS	Banksia Beach/Bellara/Bongaree, Welsby, Woorim (Bribie Island)	South
BIS	Bribie Island	South
BLI	Bli Bli	North
BLM	Bellmere	South
BME	Beachmere	South

Suburb Code Abbreviation	Suburb Description	Region
BPT	Boreen Point	North
BRC	Bracalba	South
BRI	Bribie Island (STP)	South
BRN	Brendale	South
BRP	Bray Park	South
BUD	Buderim	North
BYA	Bunya	South
CAB	Caboolture	South
CAL	Caloundra	North
CBS	Caboolture South	South
CKS	Creekside	North
CLM	Coolum	North
CMT	Clear Mountain	South
CPK	Currimundi Park	North
CRN	Cooran	North
CRY	Cooroy	North
CSM	Cashmere	South
DAG	D'Aguilar	South
DAY	Dayboro	South
DBY	Deception Bay	South
DKB	Dakabin	South
DLC	Delaney's Creek	South
DNB	Donnybrook	South
ELB	Elimbah	South
ETH	Eaton's Hill	South
EUM	Eumundi	North
EVH	Everton Hills	South
FRH	Ferny Hills	South
GLD	Golden Beach	North
GLH	Glasshouse Mountains	North
GRF	Griffin	South
HVL	Highvale	South
IMA	Image Flat (Do not use – Use NAM)	North
JYR	Joyner	South
KAW	Kawana	North

Suburb Code Abbreviation	Suburb Description	Region
KED	Kedron	South
KEN	Kenilworth	North
KIE	Kiels Mountain	North
KLG	Kallangur	South
KSC	Kings Scrub	South
KUN	Kunda Park	North
LBH	Landsborough	North
LMT	Little Mountain	North
LWT	Lawnton	South
MAL	Maleny	North
MBA	Mooloolaba	North
MDJ	Mudjimba	North
MDN	Murrumba Downs	South
MGH	Mango Hill	South
MLD	Meldale	South
MLL	Mooloola Valley	North
MLU	Moodlu	South
MOR	Morayfield	South
MPG	Marcus Peregian	North
MPL	Meridan Plains	North
MRD	Maroochydore	North
MTM	Mount Mee	South
MTN	Mountain Creek	North
NAM	Nambour	North
NBA	Narangba	South
NHD	Noosa Heads	North
NIG	Ningi	South
NSP	Ningi – Sandstone Point (DO NOT USE – Use NIG of SSP)	
NTL	North Lakes	South
NVL	Noosaville	North
PAC	Pacific Paradise	North
PGS	Peregian Springs	North
PLM	Palmwoods	North
POM	Pomona	North
PTR	Petrie	South

Suburb Code Abbreviation	Suburb Description	Region
PVW	Palmview	North
PWS	Pelican Waters	North
RED	Clontarf, Kippa Ring, Margate, Newport, Rothwell, Scarborough, Woody Point	South
RED	Redcliffe	South
ROS	Rosemount	North
SSB	Sunshine Beach	North
SSP	Sandstone Point	South
STP	Strathpine	South
SVA	Samford Vale	South
SVI	Samford Village	South
SVY	Samford Valley	South
TAN	Tanawha	North
TBL	Toorbul	South
TWN	Tewantin	North
TWW	Twin Waters	North
UCB	Upper Caboolture	South
WAR	Warner	South
WBY	Woombye	North
WFD	Woodford	South
WRN	Wamuran	South
WSD	Whiteside	South
YND	Yandina	North

Appendix D – D - Discipline Codes

Code	Standard Drawing or Document Format:- LLLSSS-D-TT-NNQQ-XX	
D	**Discipline**	**Description**
C	Civil / Architectural	Civil engineering and architectural documentation including but not limited to sketches, reports, drawings, specifications, plans and schedules.
E	Electrical, Instrumentation and Control	Electrical, instrumentation and control engineering documentation including but not limited to sketches, reports, drawings, specifications, plans, schedules, manuals, datasheets and calculations.
F	Fire	Fire engineering documentation including but not limited to sketches, reports, drawings, specifications, plans, schedules, manuals, datasheets and calculations.
G	Geographic Information System (GIS)	GIS documentation including but not limited to plans, images and maps.
H	Hydraulic	Hydraulic engineering documentation including but not limited to sketches, reports, drawings, specifications, plans, schedules, manuals, datasheets and calculations.
M	Mechanical	Mechanical engineering documentation including but not limited to sketches, reports, drawings, specifications, plans, schedules, manuals, datasheets and calculations.
P	Process and P&IDs	Process engineering documentation including but not limited to sketches, reports, drawings, specifications, plans, schedules, manuals, datasheets and calculations.
S	Structural	Structural engineering documentation including but not limited to sketches, reports, drawings, specifications, plans, datasheets and calculations.
X	Building Services	Building Services documentation including but not limited to certifications, approvals, drawings, specifications, plans, schedules and manuals.
Z	General/ Other	For all documentation which doesn't fall under one of the previously listed discipline categories.

Appendix E – TT - Drawing and Document Discipline Codes

Example	Standard Document Format: LLLSSS-D-TT-NNQQ(-XX)	
TT	**Document Type**	**Further Information**
CA	Calculation	
DS	Data Sheets	
DR	Drawing	Used for Drawings
FM	Form	
LS	List	IO, cable, equipment, motor, valve, etc
MA	Manual	Could be vendor provided, or UPG (Unit process guide)
MD	Models	Used for 3D models
MF	Federated Model	A number of models linked together to form a Federated model
MP	Map	
PC	Point Cloud Survey	
PX	Procedures	SOP (Standard operating procedure), any other procedures
RE	Report	
RG	Registers	
TR	Test Results	
TS	Technical Specification	Functional Description, Functional Specification

Appendix F – NNQQ - Process Unit and System Numbering

Process Major Areas

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2 Primary Treatment 32
3 Biological Treatment 36
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5 Chemical Dosing and Storage 43
6 Tertiary Treatment 46
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8 Sewage Pump Station, Pipes and Storage 53
9 Common Electrical And Control Equipment 56

0 Plant Wide Systems

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
PLANT WIDE SYSTEMS (PWSY)				**NAME**
0	**0**	**0 to 9**	**0 to 9**	**General (and Standards)**
0	0	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	Buildings
		9	0 to 9	Roads
0	**1**	**0 to 9**	**0 to 9**	**Service Water - Process Areas**
		0	0 to 9	Common (including Service Water Ring Main)
		1	0 to 9	Inlet Works
		2	0 to 9	Inlet Works
		3	0 to 9	Biological Treatment

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
0	1	4	0 to 9	Biological Treatment
		5	0 to 9	Biosolids Handling
		6	0 to 9	Biosolids Handling
		7	0 to 9	Spare
		8	0 to 9	Spare
		9	0 to 9	Tertiary Treatment
0	**2**	**0 to 9**	**0 to 9**	**Potable Water**
0	2	0	0 to 9	Common
		1	0 to 9	Process Areas (assign in a logical sequence)
		2	0 to 9	Process Areas (assign in a logical sequence)
		3	0 to 9	Process Areas (assign in a logical sequence)
		4	0 to 9	Process Areas (assign in a logical sequence)
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	Safety Showers
		8	0 to 9	Safety Showers
		9	0 to 9	Drinking Water - to buildings etc
0	**3**	**0 to 9**	**0 to 9**	**Fire Systems**
0	3	0	0 to 9	Common includes pump station(s) and ring main
		1	0 to 9	Common includes pump station(s) and ring main
		2	0 to 9	Common includes pump station(s) and ring main
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	Hydrants and Hoses
		9	0 to 9	Hydrants and Hoses
0	**4**	**0 to 9**	**0 to 9**	**General Purpose Pump Stations**
		0	0 to 9	Common

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
0	4	1	0 to 9	General Purpose Pump Station 1 (may be called something else if required)
		2	0 to 9	General Purpose Pump Station 2 (may be called something else if required)
		3	0 to 9	General Purpose Pump Station 3 (may be called something else if required)
		4	0 to 9	General Purpose Pump Station 4 (may be called something else if required)
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
0	**5**	**0 to 9**	**0 to 9**	**Storm Water**
0	5	0	0 to 9	Common
		1	0 to 9	Storm Water Pump Station 1 (may be called something else if required)
		2	0 to 9	Storm Water Pump Station 2 (may be called something else if required)
		3	0 to 9	Storm Water Pump Station 3 (may be called something else if required)
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
0	**6**	**0 to 9**	**0 to 9**	**Compressed Air**
0	6	0	0 to 9	Common
		1	0 to 9	Compressors
		2	0 to 9	Compressors
		3	0 to 9	Compressors
		4	0 to 9	
		5	0 to 9	Compressed Air Distribution
		6	0 to 9	Compressed Air Distribution
		7	0 to 9	Compressed Air Distribution
		8	0 to 9	

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
		9	0 to 9	
0	**7**	**0 to 9**	**0 to 9**	**Odour Control**
0	7	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
0	**8**	**0 to 9**	**0 to 9**	**Service Water - Chemical Dosing**
0	8	0	0 to 9	Common
		1	0 to 9	Chlorine
		2	0 to 9	Chlorine
		3	0 to 9	Alum
		4	0 to 9	Poly
		5	0 to 9	Poly
		6	0 to 9	MHL
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
0	**9**	**0 to 9**	**0 to 9**	**Service Water - General Use/Hoses**
0	9	0	0 to 9	Common
		1	0 to 9	General Use/Hoses - Inlet Works Area
		2	0 to 9	General Use/Hoses - Primary Treatment Area
		3	0 to 9	General Use/Hoses - Biological Treatment Area
		4	0 to 9	General Use/Hoses - Biosolids Handling Area
		5	0 to 9	General Use/Hoses - Chemical Area
		6	0 to 9	General Use/Hoses - Tertiary Treatment Area
		7	0 to 9	

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
		8	0 to 9	
		9	0 to 9	

1 Inlet Treatment

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
INLET WORKS (INLT)				**NAME**
1	**0**	**0 to 9**	**0 to 9**	**Treatment Plant Raw Sewage Pump Stations, Rising Mains and Raw Sewage Receival Chambers**
1	0	0	0 to 9	Common
		1	0 to 9	Rising Main 1
		2	0 to 9	Rising Main 2
		3	0 to 9	Rising Main 3
		4	0 to 9	Rising Main 4
		5	0 to 9	Rising Main 5
		6	0 to 9	Rising Main 6
		7	0 to 9	Rising Main 7
		8	0 to 9	Rising Main 8
		9	0 to 9	Rising Main 9
1	**1**	**0 to 9**	**0 to 9**	**Screening**
1	1	0	0 to 9	Screen Common
		1	0 to 9	(Fine/Coarse) Screen 1
		2	0 to 9	(Fine/Coarse) Screen 2
		3	0 to 9	(Fine/Coarse) Screen 3
		4	0 to 9	(Fine/Coarse) Screen 4
		5	0 to 9	Screen Classifier 1
		6	0 to 9	Screen Classifier 2
		7	0 to 9	Screen Classifier 3
		8	0 to 9	Screen Classifier 4
		9	0 to 9	
1	**2**	**0 to 9**	**0 to 9**	**Grit Removal**
		0	0 to 9	Grit System Common
		1	0 to 9	Grit Removal system 1

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
1	2	2	0 to 9	Grit Removal system 2
		3	0 to 9	Grit Removal system 3
		4	0 to 9	Grit Removal system 4
		5	0 to 9	Grit Classifier System 1
		6	0 to 9	Grit Classifier System 2
		7	0 to 9	Grit Classifier System 3
		8	0 to 9	Grit Classifier System 4
		9	0 to 9	
1	**3**	**0 to 9**	**0 to 9**	**Bypass**
1	3	0	0 to 9	Common
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
1	**4**	**0 to 9**	**0 to 9**	**Balance Tank**
1	4	0	0 to 9	Common
		1	0 to 9	Balance Tank 1 system
		2	0 to 9	Balance Tank2 system
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
1	**5**	**0 to 9**	**0 to 9**	**SPARE**
		0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
1	5	4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
1	**6**	**0 to 9**	**0 to 9**	**SPARE**
1	6	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
1	**7**	**0 to 9**	**0 to 9**	**SPARE**
1	7	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
1	**8**	**0 to 9**	**0 to 9**	**SPARE**
		0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
1	8	5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
1	**9**	**0 to 9**	**0 to 9**	**SPARE**
1	9	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	

2 Primary Treatment

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
PRIMARY TREATMENT (PRTR)				**NAME**
2	**0**	**0 to 9**	**0 to 9**	**Primary Sedimentation**
2	0	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
2	**1**	**0 to 9**	**0 to 9**	**Fermenter**

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
2	1	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
2	**2**	**0 to 9**	**0 to 9**	**SPARE**
2	2	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
2	**3**	**0 to 9**	**0 to 9**	**SPARE**
2	3	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
2	**4**	**0 to 9**	**0 to 9**	**SPARE**
		0	0 to 9	

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
2	4	1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
2	**5**	**0 to 9**	**0 to 9**	**SPARE**
2	5	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
2	**6**	**0 to 9**	**0 to 9**	**SPARE**
2	6	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
2	**7**	**0 to 9**	**0 to 9**	**SPARE**
		0	0 to 9	
		1	0 to 9	

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
2	7	2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
2	**8**	**0 to 9**	**0 to 9**	**SPARE**
2	8	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
2	**9**	**0 to 9**	**0 to 9**	**SPARE**
2	9	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	

3 Biological Treatment

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
BIOLOGICAL TREATMENT (BITR)				**NAME**
3	**0**	**0 to 9**	**0 to 9**	**Bioreactor Common**
3	0	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
3	**1**	**0 to 9**	**0 to 9**	**Bioreactor 1**
3	1	0	0 to 9	Common
		1	0 to 9	Stage 1 (i.e. Anoxic/Aerobic/Anaerobic Zone 1)
		2	0 to 9	Stage 2
		3	0 to 9	Stage 3
		4	0 to 9	Stage 4
		5	0 to 9	Stage 5
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
3	**2**	**0 to 9**	**0 to 9**	**Bioreactor 2**
3	2	0	0 to 9	Common
		1	0 to 9	Stage 1 (i.e. Anoxic/Aerobic/Anaerobic Zone 1)
		2	0 to 9	Stage 2
		3	0 to 9	Stage 3
		4	0 to 9	Stage 4
		5	0 to 9	Stage 5
		6	0 to 9	
		7	0 to 9	

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
		8	0 to 9	
		9	0 to 9	
3	**3**	**0 to 9**	**0 to 9**	**Bioreactor 3**
3	3	0	0 to 9	Common
		1	0 to 9	Stage 1 (i.e. Anoxix/Aerobic/Anaerobic Zone 1)
		2	0 to 9	Stage 2
		3	0 to 9	Stage 3
		4	0 to 9	Stage 4
		5	0 to 9	Stage 5
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
3	**4**	**0 to 9**	**0 to 9**	**Bioreactor 4**
3	4	0	0 to 9	Common
		1	0 to 9	Stage 1 (i.e. Anoxix/Aerobic/Anaerobic Zone 1)
		2	0 to 9	Stage 2
		3	0 to 9	Stage 3
		4	0 to 9	Stage 4
		5	0 to 9	Stage 5
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
3	**5**	**0 to 9**	**0 to 9**	**Biological Treatment Aeration and Blowers**
3	5	0	0 to 9	Blowers (1 to 9)
		1	0 to 9	Blowers (10-19)
		2	0 to 9	Aeration and Blowers Common Train 1 (i.e Bioreactor 1)
		3	0 to 9	Aeration and Blowers Common Train 1 (i.e Bioreactor 1)
		4	0 to 9	Aeration and Blowers Common Train 2 (i.e Bioreactor 2)

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
		5	0 to 9	Aeration and Blowers Common Train 2 (i.e Bioreactor 2)
		6	0 to 9	Aeration and Blowers Common Train 3 (i.e Bioreactor 3)
		7	0 to 9	Aeration and Blowers Common Train 3 (i.e Bioreactor 3)
		8	0 to 9	Aeration and Blowers Common Train 4 (i.e Bioreactor 4)
		9	0 to 9	Aeration and Blowers Common Train 4 (i.e Bioreactor 4)
3	**6**	**0 to 9**	**0 to 9**	**Secondary Clarifiers**
3	6	0	0 to 9	Common or Distribution
		1	0 to 9	Clarifier 1
		2	0 to 9	Clarifier 2
		3	0 to 9	Clarifier 3
		4	0 to 9	Clarifier 4
		5	0 to 9	Clarifier 5
		6	0 to 9	Clarifier 6
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
3	**7**	**0 to 9**	**0 to 9**	**SPARE**
3	7	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
3	**8**	**0 to 9**	**0 to 9**	**Return Activated Sludge (RAS)**
		0	0 to 9	
		1	0 to 9	Pump Station 1
		2	0 to 9	Pump Station 2

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
3	8	3	0 to 9	Pump Station 3
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
3	**9**	**0 to 9**	**0 to 9**	**Waste Activated Sludge**
3	9	0	0 to 9	
		1	0 to 9	Pump Station 1
		2	0 to 9	Pump Station 2
		3	0 to 9	Pump Station 3
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	

4 Biosolids Handling

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
BIOSOLIDS HANDLING (BIHD)				**NAME**
4	**0**	**0 to 9**	**0 to 9**	**Primary Sludge Thickening (PST)**
4	0	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
		9	0 to 9	
4	**1**	**0 to 9**	**0 to 9**	**Secondary Sludge Thickening (SST)**
4	1	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
4	**2**	**0 to 9**	**0 to 9**	**Anaerobic Digestion**
4	2	0	0 to 9	
		1	0 to 9	Digester 1
		2	0 to 9	Digester 2
		3	0 to 9	Digester 3
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
4	**3**	**0 to 9**	**0 to 9**	**Dewatering**
4	3	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
2	**4**	**0 to 9**	**0 to 9**	**Aerobic Digestion**
4	4	0	0 to 9	
		1	0 to 9	Digester 1
		2	0 to 9	Digester 2
		3	0 to 9	Digester 3
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
4	**5**	**0 to 9**	**0 to 9**	**Sludge Storage**
4	5	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
4	**6**	**0 to 9**	**0 to 9**	**Biosolids Blowers**
4	6	0	0 to 9	Blowers 1 to 9
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
4	**7**	**0 to 9**	**0 to 9**	**Solar Dryers**

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
4	7	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
4	**8**	**0 to 9**	**0 to 9**	**Biogas Handling**
4	8	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
4	**9**	**0 to 9**	**0 to 9**	**Cogeneration**
4	9	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	

5 Chemical Dosing and Storage

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
CHEMICAL DOSING AND STORAGE (CHEM)				**NAME**
5	**0**	**0 to 9**	**0 to 9**	**Chlorine Gas**
5	0	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
5	**1**	**0 to 9**	**0 to 9**	**Hypochlorite**
5	1	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
5	**2**	**0 to 9**	**0 to 9**	**Alum**
5	2	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
		9	0 to 9	
5	**3**	**0 to 9**	**0 to 9**	**Polymer**
5	3	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
5	**4**	**0 to 9**	**0 to 9**	**Methanol**
5	4	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
5	**5**	**0 to 9**	**0 to 9**	**Lime**
5	5	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	

Pr8843 - Specification for Drawing, Document and Equipment Tag Numbering

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
5	**6**	**0 to 9**	**0 to 9**	**MHL**
5	6	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
5	**7**	**0 to 9**	**0 to 9**	**SPARE**
5	7	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
5	**8**	**0 to 9**	**0 to 9**	**SPARE**
5	8	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
5	**9**	**0 to 9**	**0 to 9**	**SPARE**

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
5	9	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	

6 Tertiary Treatment

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
TERTIARY TREATMENT (TERT)				**NAME**
6	**0**	**0 to 9**	**0 to 9**	**Filters**
6	0	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
6	**1**	**0 to 9**	**0 to 9**	**Ozone/BAC**
6	1	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
6	**2**	**0 to 9**	**0 to 9**	**Chemical Disinfection**
6	2	0	0 to 9	
		1	0 to 9	Chlorine Contact Tank 1
		2	0 to 9	Chlorine Contact Tank 2
		3	0 to 9	Chlorine Contact Tank 3
		4	0 to 9	Chlorine Contact Tank 4
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
6	**3**	**0 to 9**	**0 to 9**	**UV Disinfection**
6	3	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
6	**4**	**0 to 9**	**0 to 9**	**Effluent Pump Station**
6	4	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
6	**5**	**0 to 9**	**0 to 9**	**Effluent Outfall (Pipes)**
6	5	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
6	**6**	**0 to 9**	**0 to 9**	**Recycled Water - Standards, Pumping and Pipes**
6	6	0	0 to 9	Recycled Water - Standards
		1	0 to 9	Recycled Water Pumping
		2	0 to 9	Recycled Water Pumping
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	Recycled Water Pipelines
		6	0 to 9	Recycled Water Pipelines
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
6	**7**	**0 to 9**	**0 to 9**	**SPARE**
6	7	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
6	**8**	**0 to 9**	**0 to 9**	**SPARE**
6	8	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
6	**9**	**0 to 9**	**0 to 9**	**Wetlands**
6	9	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	

7 Water Pump Stations, Pipes and Reservoirs

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
WATER PUMP STATIONS, PIPES AND RESERVOIRS				**NAME**
7	**0**	**0 to 9**	**0 to 9**	**General (and Standards)**
		0	0 to 9	
		1	0 to 9	

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
7	0	2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
7	**1**	**0 to 9**	**0 to 9**	**Water Booster Pump Station**
7	1	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
7	**2**	**0 to 9**	**0 to 9**	**Trunk Main**
7	2	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
7	**3**	**0 to 9**	**0 to 9**	**SPARE**
		0	0 to 9	
		1	0 to 9	
		2	0 to 9	

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
7	3	3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
7	**4**	**0 to 9**	**0 to 9**	**Reticulation**
7	4	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
7	**5**	**0 to 9**	**0 to 9**	**Reservoir**
7	5	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
7	**6**	**0 to 9**	**0 to 9**	**PRV Sites**
		0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
7	6	4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
7	**7**	**0 to 9**	**0 to 9**	**Chemical Dosing**
7	7	0	0 to 9	Chlorine Gas
		1	0 to 9	Hypochlorite
		2	0 to 9	Alum
		3	0 to 9	Polymer
		4	0 to 9	Methanol
		5	0 to 9	Lime
		6	0 to 9	MHL
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
7	**8**	**0 to 9**	**0 to 9**	**SPARE**
7	8	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
7	**9**	**0 to 9**	**0 to 9**	**Meters**
		0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
7	9	5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	

8 Sewage Pump Station, Pipes and Storage

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
SEWAGE PUMP STATIONS, PIPES AND STORAGE				**NAME**
8	**0**	**0 to 9**	**0 to 9**	**General (and Standards)**
8	0	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
8	**1**	**0 to 9**	**0 to 9**	**Sewage Pump Station**
8	1	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
8	**2**	**0 to 9**	**0 to 9**	**Trunk (Gravity) Mains**

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
8	2	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
8	**3**	**0 to 9**	**0 to 9**	**Rising (Pumped) Mains**
8	3	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
8	**4**	**0 to 9**	**0 to 9**	**Reticulation**
8	4	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
8	**5**	**0 to 9**	**0 to 9**	**Storage**
		0	0 to 9	

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
8	5	1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
8	**6**	**0 to 9**	**0 to 9**	**Syphon, overflow structure**
8	6	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
8	**7**	**0 to 9**	**0 to 9**	**Chemical Dosing**
8	7	0	0 to 9	Chlorine Gas
		1	0 to 9	Hypochlorite
		2	0 to 9	Alum
		3	0 to 9	Polymer
		4	0 to 9	Methanol
		5	0 to 9	Lime
		6	0 to 9	MHL
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
8	**8**	**0 to 9**	**0 to 9**	**Vacuum**
		0	0 to 9	
		1	0 to 9	

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
8	8	2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
8	**9**	**0 to 9**	**0 to 9**	**SPARE**
8	9	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	

9 Common Electrical and Control Equipment

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
COMMON ELECTRICAL AND CONTROL EQUIPMENT (ELCO)				**NAME**
9	**0**	**0 to 9**	**0 to 9**	**Common Electrical Equipment - Plant Wide Systems (and Electrical standards)**
9	0	0	0 to 9	Main Switchboard/equipment for entire site - (AHF, PFC, PLC etc)
		1	0 to 9	Motor Control Centres
		2	0 to 9	
		3	0 to 9	Distribution Boards – Light and Power
		4	0 to 9	UPS Distribution Boards
		5	0 to 9	Site Wide Lighting

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
		6	0 to 9	Electrical Underground Services – Conduits, pits, etc
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	Network - Control System, IT etc
9	**1**	**0 to 9**	**0 to 9**	**Common Electrical Equipment - Inlet Works Area**
9	1	0	0 to 9	Common Electrical Equipment – Inlet Works Area
		1	0 to 9	Motor Control Centres
		2	0 to 9	
		3	0 to 9	Distribution Boards – Light and Power
		4	0 to 9	UPS Distribution Boards
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
9	**2**	**0 to 9**	**0 to 9**	**Common Electrical Equipment - Primary Treatment Area**
9	2	0	0 to 9	Common Electrical Equipment - Primary Treatment Area
		1	0 to 9	Motor Control Centres
		2	0 to 9	
		3	0 to 9	Distribution Boards – Light and Power
		4	0 to 9	UPS Distribution Boards
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
9	**3**	**0 to 9**	**0 to 9**	**Common Electrical Equipment – Biological Treatment Area**
		0	0 to 9	Common Electrical Equipment – Biological Treatment Area
		1	0 to 9	Motor Control Centres
		2	0 to 9	

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
9	3	3	0 to 9	Distribution Boards – Light and Power
		4	0 to 9	UPS Distribution Boards
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
9	**4**	**0 to 9**	**0 to 9**	**Common Electrical Equipment - Biosolids Area**
9	4	0	0 to 9	Common Electrical Equipment – Biosolids Area
		1	0 to 9	Motor Control Centres
		2	0 to 9	
		3	0 to 9	Distribution Boards – Light and Power
		4	0 to 9	UPS Distribution Boards
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
9	**5**	**0 to 9**	**0 to 9**	**Common Electrical Equipment - Chemical Area**
9	5	0	0 to 9	Common Electrical Equipment – Chemical Area
		1	0 to 9	Motor Control Centres
		2	0 to 9	
		3	0 to 9	Distribution Boards – Light and Power
		4	0 to 9	UPS Distribution Boards
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
9	**6**	**0 to 9**	**0 to 9**	**Common Electrical Equipment - Tertiary Treatment Area**

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
9	6	0	0 to 9	Common Electrical Equipment – Tertiary Treatment Area
		1	0 to 9	Motor Control Centres
		2	0 to 9	
		3	0 to 9	Distribution Boards – Light and Power
		4	0 to 9	UPS Distribution Boards
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	
9	**7**	**0 to 9**	**0 to 9**	**Common Electrical Equipment - Water Networks Sites**
9	7	0	0 to 9	Common Electrical Equipment - Water Networks Sites Main Switchboard/equipment for entire site - (AHF, PFC, PLC etc)
		1	0 to 9	Other Motor Control Centres (i.e. sub boards if used)
		2	0 to 9	
		3	0 to 9	Distribution Boards – Light and Power (if separate)
		4	0 to 9	UPS Distribution Boards (if separate)
		5	0 to 9	Site Wide Lighting
		6	0 to 9	Electrical Underground Services – Conduits, pits, etc
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	Network - Control System, IT etc
9	**8**	**0 to 9**	**0 to 9**	**Common Electrical Equipment - Sewer Network Sites**
9	8	0	0 to 9	Common Electrical Equipment - Sewer Networks Sites Main Switchboard/equipment for entire site - (AHF, PFC, PLC etc)
		1	0 to 9	Other Motor Control Centres (i.e. sub boards if used)
		2	0 to 9	

Process Major Area N	Process Sub Area N	System Q	System Equipment Q	STANDARD NAMES
		3	0 to 9	Distribution Boards – Light and Power (if separate)
		4	0 to 9	UPS Distribution Boards (if separate)
		5	0 to 9	Site Wide Lighting
		6	0 to 9	Electrical Underground Services – Conduits, pits, etc
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	Network - Control System, IT etc
9	**9**	**0 to 9**	**0 to 9**	**SPARE**
9	9	0	0 to 9	
		1	0 to 9	
		2	0 to 9	
		3	0 to 9	
		4	0 to 9	
		5	0 to 9	
		6	0 to 9	
		7	0 to 9	
		8	0 to 9	
		9	0 to 9	

Appendix G – EEE - Equipment Alpha Codes

Alpha Code EEE	Equipment Description
ACR	Air Cooler
ACU	Air Conditioning Unit
ADR	Air Dryer
AEX	Anion Exchanger
AER	Aerator or Paddle
AHF	Active Harmonic Filter
ALT	Alternator
BAT	Battery
BCH	Battery Charger
BDG	Bridge (Fixed)
BFP	Belt Filter Press
BGL	Bag Loader
BIN	Bin (silo or hopper)
BLD	Building
BLW	Blower High Volume, Low Pressure
BOI	Boiler
BRI	Bridge (Mechanical)
BWL	Bowl Drive Part of Centrifuge
BRI	Mechanical Bridge
CAP	Capacitor Bank
CAR	Carousel (bagging)
CBH	High Voltage Circuit Breaker
CBL	Low Voltage Circuit Breaker
CBM	Medium Voltage Circuit Breaker
CEX	Cation Exchanger
CFG	Centrifuge
CHB	Chamber
CHL	Chlorinator
CHN	Channel
CLD	Chlorine Detector
CLL	Chiller
CLR	Clarifier
CMP	Communications Panel

Alpha Code EEE	Equipment Description
CNL	Canal
CNP	Control Panel
CON	Conveyor - Belt, Slotted Belt or Bucket
CPR	Compressor
CPT	Catch Pot
CPU	Cathodic Protection Unit
CRN	Crane - Crane/Davit/Gantry/Hoist/Pulley/Chainblock/Winch
CRU	Crusher
CTV	Closed-Circuit Television
CTW	Cooling Tower
CVL	Calibration Vessel, Tube, cylinder etc.
CYC	Cyclone
CYL	Cylinder
DAM	Dam
DCS	Distributed Process Control System
DEC	Decanter
DHR	Dehumidifier
DIF	Diffuser – Air, Water, etc.
DIG	Digester
DMP	Pulsation Dampener
DOR	Door – All forms of motorised door, shutter or entrance gate
DRM	Drum
DWL	Dry Well
EFS	Effluent Filling Station
EJR	Ejector, Injector or Eductor
ELP	Electrical Panel
ENG	Engine – Diesel/Petrol/Gas
ENS	Electrical - Network Switch (i.e. SCADA LAN/Control LAN switches)
EPS	Effluent Pump Station
ESP	Effluent Standpipe
ERT	Energy Recovery Turbine
EVP	Evaporator
FAN	Fan - includes all fans such as cooling tower fans
FAP	Flammable Arrester with Protective fuse
FAR	Flame Arrester

Alpha Code EEE	Equipment Description
FDR	Feeder – Screw, rotary or other feeders
FEN	Fence
FHY	Fire hydrant
FIL	Filter
FIP	Fire Indicator Panel
FHY	Fire Hydrant
FLM	Flame Trap
FTP	Field Termination Panel
GAL	Gallery
GAT	Gate Fixed Wheel, Drum (also see Door)
GBX	Gearbox
GDD	Gravity Drainage Deck
GDP	Gas Detection Panel
GEN	Generator
GHT	Gas Holding Tank
GSP	Grease Separator
GSV	Valve – Gas Holding Tank Safety Valve
HMI	Human Machine Interface Applies to monitors, keyboards, computer
HSR	Hose Reel
HTR	Heater
HXR	Heat Exchanger, Ambient Heat Vaporiser
HYD	Hydraulic Power Pack
HYV	Hydrant (valve)
IGV	Inlet Guide Vane
ISL	Isolating Switch Local - Use for field isolators only
JBC	Junction Box Communications
JBE	Junction Box Electrical
JBI	Junction Box Instrumentation
LCP	Local Control Panel
LCS	Local Control Station
LFT	Lift (Passenger or Service Hoist)
LGT	Lighting / Lights
LPD	Lighting, Power Distribution Board etc.
LSK	Lime Slaker
LVD	Low Voltage Distribution Board with 415V Busbars

Alpha Code EEE	Equipment Description
MCT	Macerator
MCC	Motor Control Centre
MCR	Muncher
MHL	Maintenance Hole
MXR	Mixer, Flocculator
MXS	Static Mixer Inline
MFM	Microfiltration (MF)/ Ultra Filtration (UF) Membrane
MPL	Marshalling Panel
MSB	Main Switchboard
MTR	Motor
OCU	Odour Control Unit
OGD	Off Gas Destructor
OZG	Ozone Generator
PBX	Telecommunications System/ Private Automated Branch Exchange (PABX)
PEN	Penstock
PFC	Power Factor Correction
PLC	Programmable Logic Controller
PLP	PLC Panel
PMD	Pump (Dosing, Metering special function etc.)
PMP	Pump (centrifugal, positive displacement, piston, diaphragm, etc.)
PRN	Printer
PRS	Plate Press (Dewatering)
PST	Primary Sedimentation Tank
PVL	Pasteurising Vessel
RDR	Card Swipe/Reader
RES	Reservoir
RIO	Remote Input/Output Rack
RMU	Ring Main Unit
ROM	RO Membrane
RPZ	Reduced Pressure Zone
RTP	Recycled Water Treatment Plant
RTU	Remote Telemetry Unit
SAM	Sample Point
SBD	Stopboard
SCA	Switchgear & Control gear Assembly

Alpha Code EEE	Equipment Description
SCB	Scrubber
SCN	Screen – Mechanically Raked, Hand Raked, Step & Trash Racks
SCP	Scraper
SCV	Scour valve
SCW	Screw
SFT	Shaft
SGH	Switchgear High Voltage
SGM	Switchgear Medium Voltage
SGP	Sewer Gravity Pipe
SHC	Sewer House Connection
SIL	Silencer
SIP	Security Indicator Panel
SKM	Skimmer – Use for all surface scum removal applications
SLO	Silo, e.g. Lime
SMP	Sump
SMR	Sampler
SPC	Sewer Property Connection
SPP	Sewer Pressure Pipe
SPS	Sewer Pump Station
SSR	Safety Shower
SSS	Sewer Septic System
SST	Soft Starter
STN	Strainer
STP	Sewage Treatment Plant
STR	Structure
SUB	Substation
SWR	Switchroom
SYS	Control System – For all software internal points for common equipment
TBG	Travelling Bridge
TEP	Telemetry Panel
TFI	Trickling Filter
THB	Thermoblender
THK	Thickener
TNK	Tank or Vessel (Non-pressurised)
TNL	Tunnel

Alpha Code EEE	Equipment Description
TRF	Transformer
TRP	Trap
TRY	Transformer Yard
TWR	Tower
UPS	Uninterrupted power supply
UVB	Ultra Violet Bank
VAP	Vacuum Pump
VAR	Air Release Valve
VAS	Anti Siphon Valve
VBA	Ball Valve (manual) – In Main Process line
VBC	Ball Valve (manual) – Normally Closed – Process drain/offtake
VBF	Butterfly Valve (manual)
VBO	Ball Valve (manual) – Normally Open – Process drain/offtake
VDH	Diaphragm Valve (manual)
VFC	Flow Control Valve – (For automated valves that are position modulating for flow control)
VFS	Flow Switching Valve – (For automated valves that are either open or closed for flow control)
VGL	Globe Valve (manual)
VGT	Gate Valve (manual)
VIB	Vibrator, Hammer or Shaker
VKG	Knife Gate Valve
VLD	Loading Valve (manual)
VND	Needle Valve (manual)
VNR	Non-Return or Reflux valve
VPC	Pressure Control Valve – (For automated valves that are position modulating for pressure control)
VPG	Plug Valve (manual)
VPI	Pinch Valve (manual)
VPN	Ventilation Panel or System
VPR	Pressure Relief Valve (manual)
VPS	Pressure Switching Valve – (For automated valves that are open or closed for pressure control)
VPV	Pressure Vacuum Relief Valve
VRC	Rotary Control Valve
VRD	Rupture Disc

Alpha Code EEE	Equipment Description
VSD	Variable Speed Drive - Includes Variable Voltage Variable Frequency drives (VVVFs) and controllers
VSH	Vent Shaft
VSL	Pressure Vessel - Any pressurised tank or vessel
VSM	Vent Safety (manual)
VTW	3 Way Valve (Manual)
VVC	Vacuum Control Valve
VVR	Vacuum Relief Valve (manual)
WBR	Weighbridge
WCN	Wetting Cone
WCP	Washer Compactor
WCU	Water Conditioning Unit
WEL	Well
WER	Weir
WGB	Waste Gas Burner
WGP	Water Gravity Pipe
WPP	Water Pressure Pipe
WPR	Washpactor
WPS	Water Pump Station
WSC	Water Service Connection
WSL	Weigh Scale
WSP	Water Stand Pipe
WTP	Water Treatment Plant

Appendix H – EEE - Instrumentation Abbreviations and Codes

	First Letters		Succeeding Letters		
	Column 1	Column 2	Column 3	Column 4	Column 5
Upper Case Letter	Measured/Initiating Variable	Variable Modifier	Readout/Passive Function	Output/Active Function	Function Modifier
A	Analysers		Alarm		
B	Burner, Combustion				
C				Control	Close
D		Differential			Deviation
E	Voltage		Sensor, Primary Element		
F	Flow, Flow Rate	Ratio (Fraction)			
G			Glass, Gauge, Viewing Device		
H	Hand				
I	Current		Indicate		
J	Power		Scan		
K	Time, Schedule	Time Rate of Change		Control Station	
L	Level		Light		Low
M					Middle, Intermediate
N					
O			Orifice, Restriction		Open
P	Pressure		Point (Test Connection)		
Q	Quantity	Integrate, Totalise	Integrate, Totalise		
R	Radiation		Record		Run
S	Speed, Frequency	Safety		Switch	Stop
T	Temperature			Transmit	
U	Multivariable		Multifunction	Multifunction	
V	Vibration			Valve, Damper, Louvre	
W	Weight, Force		Well, Prove		
X		X-Axis			

	First Letters		Succeeding Letters		
	Column 1	Column 2	Column 3	Column 4	Column 5
Upper Case Letter	Measured/Initiating Variable	Variable Modifier	Readout/Passive Function	Output/Active Function	Function Modifier
Y	Event, State, Presence	Y-Axis		Auxiliary Devices	
Z	Position, Dimension	Z-Axis		Driver, Actuator, Unclassified final control elemnt	

Common Instrument Code EEE	Instrument Code Description
AE	Analysis Element
AI	Analysis Indicator
AIT	Analysis Indicating Transmitter
AT	Analysis Transmitter
FE	Flow Element
FI	Flow Indicator
FIQ	Flow Rate Indicator Totaliser
FIT	Flow Rate Indicating Transmitter
FR	Flow Recorder
FS	Flow Switch
FSH	Flow Switch High
FSHH	Flow Switch High/High
FSL	Flow Switch Low
FSLL	Low Switch Low/Low
FT	Flow Rate Transmitter
FIT	Flow Transmitter
LC	Level Controller
LE	Level Element
LII	Level Indicator
LIC	Level Indicating Controller
LIT	Level Indicator Transmitter
LS	Level Switch
LSH	Level Switch High
LSHH	Level Switch High / High
LSL	Level Switch Low

Common Instrument Code EEE	Instrument Code Description
LSLL	Level Switch Low / Low
LT	Level Transmitter
PDE	Pressure Differential Element
PDI	Pressure Differential Indicator
PDIT	Pressure Or Vacuum Differential Indicating Transmitter
PDSH	Pressure Differential Switch High
PDT	Pressure Differential Transmitter
PI	Pressure Or Vacuum Indicator
PIC	Pressure Indicating Controller
PIT	Pressure Indicating Transmitter
PS	Pressure Switch
PSH	Pressure Switch High
PSHH	Pressure Switch High/High
PSL	Pressure Switch Low
PSLL	Pressure Switch Low/Low
PT	Pressure Transmitter
SC	Speed Control
SIC	Speed Indicating Controller
SSL	Speed Switch Low
TE	Temperature Element
TI	Temperature Indicator
TIC	Temperature Indicating Controller
TIT	Temperature Indicating Transmitter
TS	Temperature Switch
TSH	Temperature Switch High
TSHH	Temperature Switch High/High
TSL	Temperature Switch Low
TSLL	Temperature Switch Low/Low
TT	Temperature Transmitter
WE	Torque / Weight Alarm Element
SIT	Torque / Weight Indicating Transmitter
WS	Torque / Weight Switch
XA	General Alarm
ZIT	Position Indicating Transmitter
ZS	Position Switch

Common Instrument Code EEE	Instrument Code Description
ZSC	Position Switch Closed
ZSO	Position Switch Open
ZSS	Position Safety Switch

Appendix I – Cable Type Abbreviations

Cable Type	Description
C	Control
D	Data - Ethernet
F	Fibre Optic
J	Instrumentation
P	Power
R	Ring – Ethernet (only use where Ethernet (Cat5, Cat6) cable is used as part of the control system ring

Appendix J – Fluid Abbreviations

Fluid Abbreviation	Meaning
AER	Process Air (Aeration)
AIR	Compressed Air
ALM	Alum Solution
BGS	Biogas
CLG	Chlorine Gas
CLL	Chlorine Liquid
CLS	Chlorine Solution
DEF	Disinfected Effluent
DGS	De-gritted Sewage
DIE	Diesel
DSL	Digested Sludge
DWS	Dewatered Sludge
EHG	Exhaust Gas
FAN	Foul Air
FFL	First Flush
FWA	Fire Water
GRS	Grit Slurry
GRT	Grit
HTW	Hot Water
HYP	Sodium Hypochlorite
MBE	MBR or MBBR Effluent
MLQ	Mixed Liquor
NTS	Nutrient Solution
OVF	Overflow
PEF	Primary Effluent
POL	Polymer Solution
POT	Potable Water
PRS	Process Sewage
PSL	Primary Sludge
RAS	Return Activated Sludge
RAW	Raw Sewage
SCM	Scum/Grease
SCN	Screenings
SCS	Screened Sewage

Fluid Abbreviation	Meaning
SEF	Secondary Effluent
SER	Service Water
SLG	Sludge
SSL	Secondary Sludge
STM	Stormwater
SUP	Supernatant
SWA	Softened Water
TEF	Tertiary Effluent
TSL	Thickened Sludge
WAS	Waste Activated Sludge

Appendix K – Pipe Type Abbreviations

Pipe Abbreviation	Meaning
ABS	Acrylonitrile Butadiene Stryrene - AS3518
AC	Asbestos Cement
CICL	Cast Iron, Cement Lined
CIOD	Cast Iron Outside Diameter
CISL	Cast Iron, Spun Lined
CON	Concrete
CR	Concrete, Reinforced
CS	Carbon Steel
CU	Copper
CUR	Concrete Un-Reinforced
DIBL	Ductile Iron, Bitumen Lined
DICL	Ductile Iron, Cement Lined
DISL	Ductile Iron, Spun Lined
FBEDI	Fusion Bonded Epoxy Ductile Iron
FLH	Flexible Hose
FRC	Fiber Reinforced Cement
FRP	Fiber Reinforced Plastic
GMS	Galvanised Mild Steel
GRP	Glass Reinforced Plastic
HDPE	High Density Polyethylene
MS	Mild Steel
MSCL	Mild Steel Cement Lined
MSSW	Mild Steel Spiral Wound
NYL	Nylon
oPVC or PVC-O	Oriented Pvc
PE	Polyethylene
PVC	Poly Vinyl Chloride, Unplasticised
PVI	Poly Vinyl Iron
RCP	Reinforced Concrete Pipe
SCL	Steel Cement Lined
SS	Stainless Steel
SS0	Stainless Steel, Type 304
SS1	Stainless Steel, Type 316
uPVC	Unplastisised Polyvinyl Chloride